

REMARKS

This amendment responds to the Office Action mailed July 27, 2004. Each of the issues raised by the Examiner in that action is addressed below.

Election/Restrictions

The Examiner withdrew claims 25 and 26 from consideration by saying those claims are directed to independent or distinct inventions. Applicant requests that those claims be reinstated and examined. Applicant does not comment on whether the claims are independent or distinct. Rather, applicant asserts that claims 25 and 26 should be examined because to do so would place no additional burden on the Examiner. As stated in the MPEP, section 802.03: "If the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent or distinct inventions." In the present case, there is no additional burden on the Examiner because claims 25 and 26 address the same subject matter as the other claims, except they are process instead of apparatus claims, and because no additional searching is required. Additionally, the Examiner's basis for withdrawing the claims from consideration was that claims 25 and 26 can be practiced by an apparatus "not having hydraulic cylinders." Applicant points out that most of the currently pending claims do not require hydraulic cylinders, so the Examiner's reasoning on this point seems irrelevant.

Claim Rejections – 35 USC §103

The Examiner rejected claims 1, 9, 10 and 14-19 under 35 U.S.C. §103(a) as obvious in light of Ramsden (U.S. Patent 4,637,289) in view of Yoneda (U.S. Patent 4,117,752) or Friemann (U.S. Patent 3,358,095) and Terauchi (U.S. Patent 4,512,224).

The Examiner also rejected claims 1, 9, 14 and 15 under 35 U.S.C. §103(a) as obvious in light of Malm (U.S. Patent 3,946,631) in view of Yoneda or Friemann and Terauchi. Those rejections are traversed because the Terauchi reference is outside the proper scope and content of the art, because there is no reasonable expectation that the suggested combinations would work, and because there is no teaching, suggestion or motivation to combine the references as suggested by the Examiner. These points are all independent reasons why the claims are not obvious and any one of these reasons is sufficient by itself to overcome the obviousness rejection. Applicant has also previously submitted objective indicia of non-obviousness. These points are explained below.

1. Terauchi is Outside the Proper Scope and Content of the Art.

The Terauchi reference should not be considered in determining obviousness because it is non-analogous art and therefore outside the proper scope and content of the art. MPEP §2141.01(a). Terauchi is non-analogous art because it is outside the field of applicant's endeavor. The field of applicant's endeavor was woodworking machinery while the field of Terauchi's disclosure was textile cutting, specifically, slitters used to cut cloth rolled onto a tube.

Terauchi is also non-analogous art because it is not reasonably pertinent to the particular problem addressed by the applicant's claims. Applicant's claims address the problem of detecting contact between a person and a blade in an up-cut saw while Terauchi addresses the issue of a blade that fails to stop when cutting through a roll of cloth. Nothing in Terauchi addresses or even mentions the problem of a person accidentally contacting the blade. Additionally, applicant's claims describe up-cut saws

with a blade that moves from below a work surface to a position above the work surface to cut a workpiece held on the work surface. In contrast, the slitter disclosed in Terauchi moves a blade horizontally to cut a roll of cloth supported on a rod. The blade in Terauchi is exposed at all times and does not move from below to above a work surface. Terauchi also does not have the detection or reaction systems as described in applicant's claims. Instead Terauchi discloses a limit switch, a circuit to pass a current from the blade to the supporting rod, and a table/screw system to move the blade back. These functional and structural differences between applicant's claims and Terauchi show that Terauchi is non-analogous art.

2. There is no Reasonable Expectation of Success.

In order to conclude that applicant's claims are obvious in light of Ramsden, Malm, Yoneda, Friemann and Terauchi, there must be a reasonable expectation that the specified combinations of those references would work. MPEP 2142, 2143 & 2143.02. If there is no such expectation, then a conclusion of obviousness is improper. In the case at hand, there is no such reasonable expectation, and therefore, the claims at issue are not obvious in light of the cited references.

Yoneda and Friemann disclose band saws with contact detection systems that purportedly detect when a person contacts the blade. The blade is a long band of metal looped around several pulleys. The blade moves around the pulleys when the pulleys rotate. The contact detection systems used with those band saws depend on conductive rollers that remain in contact with the blade as the blade moves around the pulleys. The rollers remain in contact with the blade by pushing against and rolling along the side of the blade. The rollers can roll along the side of the blade because the blade moves in a

linear path. If the rollers were not in contact with the blade, then the contact detection systems would not work.

An up-cut saw with a large, circular spinning blade as disclosed in Ramsden or Malm is very different from a band saw, and those differences preclude the use of Yoneda's or Friemann's detection system. Specifically, the rollers from Yoneda and Friemann could not roll along and remain in contact with the side of a circular blade in an up-cut saw because that circular blade spins instead of moving in a linear path. As the circular blade spins, the rollers would skip or bounce over the blade, thereby causing intermittent contact with the blade and preventing the detection system from working. Additionally, the rollers could not press against the blade with any significant force because the blade would flex and that flexing would adversely affect the resulting cut.

The detection systems used in Yoneda's and Friemann's band saws also probably would not work in the up-cut saws of Ramsden or Malm because a circular blade has a larger surface area than a band blade. The larger surface area of a circular blade results in a greater capacitive coupling with surrounding structure, and that greater capacitive coupling would adversely affect any signal transmitted on or through the blade to the detection system, thereby preventing the detection system from working.

The circular blade in Ramsden and Malm is also grounded; it is not electrically isolated from the rest of the saw. The band blades in both Yoneda and Friemann, however, must be electrically isolated from ground in order for their respective detection systems to work. Because the circular blade in an up-cut saw is grounded, it is not

reasonable to expect the detection systems of Yoneda or Friemann to work in the saws disclosed in Ramsden and Malm. There is no teaching or suggestion in any cited reference to insulate the spindle in an up-cut saw.

Applicant's claim 14 specifies that a blade is mounted on a spindle and that the spindle and blade are electrically insulated from the frame. As stated, nothing in the prior art shows or suggests this configuration, and therefore, this claim is not obvious in light of the cited references. MPEP 2143.03 (all claim limitations must be taught or suggested). The Examiner, however, rejected claim 14 by saying that the modified devices of Ramsden and Malm both disclose "a blade mounted on a spindle, wherein the spindle and blade are electrically insulated from the frame" (Office Action, 4, 6.) The Examiner said the modified devices disclose that structure "because in order for the devices of Yoneda, Friemann et al., and Terauchi to function correctly, i.e. detect signal changes on the blade, the blade must be insulated from the frame." *Id.* The Examiner recognizes that the detection systems of Yoneda and Friemann would not work in an up-cut saw with a grounded spindle. But that fact supports a conclusion of non-obviousness because there is no reasonable expectation that the suggested combination would work; it does not support a conclusion of obviousness. In other words, the fact that the cited references fail to show or suggest an insulated spindle means the references fail to suggest how to implement a contact detection system in an up-cut saw. The Examiner's statement that the modified devices of the cited references show an insulated spindle is simply hindsight reconstruction; the references do not show such a structure.

For all these reasons, there is no reasonable expectation that that the detection systems of Yoneda or Friemann could be successfully combined with the up-cut saw of Ramsden or Malm. There are simply too many differences between the references. This conclusion is supported by the fact that neither Yoneda nor Friemann suggest that their detection systems could work with circular saws. The lack of such a statement implies that Yoneda and Friemann did not consider their inventions relevant to circular saws, and it is unlikely that a person of ordinary skill would conclude otherwise.

There also is no reasonable expectation that the retraction system in Terauchi would work with an up-cut saw because the blade in an up-cut saw is supported differently than in a slitter. The blade in Terauchi is supported on a table that, in turn, is supported on a screw. The table and blade move forward and back when the screw turns. There is no similar construction in an up-cut saw. How could the screw and table disclosed in Terauchi retract the circular blade in Ramsden? How would Terauchi's retraction mechanism be mounted in an up-cut saw? Would the blade in the up-cut saw be mounted on a table that is moved by a screw as in Terauchi? Would a separate motor be required to turn the screw? Can a table/screw based system retract a blade fast enough to be effective in a situation where a person accidentally contacts a spinning blade? All these questions show that there is no reasonable expectation that the retraction system of Terauchi would work in an up-cut saw.

3. There is no Teaching, Suggestion or Motivation to Combine the References.

References in an obviousness analysis may be combined only "where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary

skill in the art." MPEP §2143.03. If there is no such teaching, suggestion or motivation, then the combination is improper. MPEP §2143.

The Examiner combined Ramsden or Malm with either Yoneda or Friemann and Terauchi to reject the claims, but the Examiner did not identify a teaching, suggestion or motivation to combine the references. Instead, the Examiner simply said it would have been obvious to combine Ramsden or Malm and either Yoneda or Friemann in order "to determine if the user accidentally touches the blade and if so stop the blade in order to prevent injury to the user." (Office Action, 4, 5.) The Examiner also said it would have been obvious to add Terauchi to the combinations "in order to retract the moving blades of the modified device of [Ramsden or Malm] upon detection of contact between the user and the blade to prevent further injury to the user." (Office Action, 4, 6.) These are the only reasons given by the Examiner to combine the references. Those reasons, however, beg the question. The Examiner is simply saying that the desire to improve the saw is a sufficient motivation to combine the references. But the desire to improve a machine cannot be a sufficient motivation by itself to combine references because virtually all inventions would then be obvious. Clearly, that is not the rule. Rather, there must be some express or implicit teaching, suggestion or motivation in the prior art to make the specific combination. Expressed differently, it is not the desire to improve something but the solution that is the issue.

In the case at hand, nothing in the cited references suggests combining Ramsden or Malm with either Yoneda or Friemann and Terauchi. To the contrary, the differences between the references support the conclusion that there is no such suggestion. Why would a person of ordinary skill think to combine the detection system

of Yoneda or Friemann with the up-cut saw of Ramsden or Malm given the differences between the disclosed machines and the different manners of using the disclosed machines? Why would a person of ordinary skill combine the retraction system of Terauchi with the up-cut saw of Ramsden or Malm when Yoneda and Friemann suggest stopping the blade instead of retracting it? Where is the suggestion that a contact detection system will even work with a circular blade? Where is there even a suggestion that up-cuts saws need to be made safer?

It is only by looking with hindsight at applicant's disclosure that one finds a suggestion or teaching to modify Ramsden or Malm as set forth in applicant's claims. It is applicant's disclosure, not the prior art, that teaches the desirability of up-cut saws configured as set forth in the claims. More specifically, it is applicant's disclosure that teaches how to isolate the blade in an up-cut saw, how to include a detection system to detect contact between the blade and a person, and how to retract that blade if contact is detected. But in an obviousness analysis, one must review the prior art without the benefit of applicant's disclosure. One cannot use the teaching of applicant's disclosure to suggest the modification to the prior art. The law is "clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references." In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) (citations omitted). Additionally, a suggestion, teaching or motivation to combine or modify references "must be clear and particular." Id. (citation omitted). In the case at hand there is no clear and particular suggestion, teaching or

motivation to combine the cited references to arrive at applicant's claims, and therefore, the obviousness rejection should be withdrawn.

4. Objective Indicia of Non-Obviousness.

Applicant previously submitted objective indicia of non-obviousness, including evidence of a long-felt but unsatisfied need for safer saws and public recognition and praise of applicant's new technology. That objective indicia further supports the conclusion that applicant's claims are non-obvious.

For all these reasons, applicant's claims are non-obvious and this rejection should be withdrawn.

Double Patenting

The Examiner made several double patenting rejections, each of which is addressed below. References to cited co-pending claims in the following discussion refer to claims as amended.

1. Application Number 09/929,242 in View of Yoneda or Friemann and Ramsden.

The Examiner provisionally rejected claims 1, 9, 10 and 14-19 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-22 and 26-29 of co-pending Application No. 09/929,242 in view of Yoneda or Friemann and Ramsden. These rejections are traversed. Applicant points out that co-pending claims 2-4, 6-7, 9, 11-18 have been cancelled without prejudice, so the rejection based on those claims is moot. Additionally, the co-pending application had only 18 claims at the time the present Office Action was mailed, so applicant does not understand the reference to co-pending claims 22 and 26-29.

In any event, the double patenting rejection should be withdrawn because the cited claims from the present application are later-developed species of the co-pending claims. Specifically, the present claims address later-developed up-cut saws and the claims include limitations pertinent to up-cut saws, while the co-pending claims address woodworking equipment generally. Accordingly, the present claims are very different and include many more limitations than found in the cited co-pending claims. Applicant could not have filed the claims together in one application because the invention claimed in the present application did not exist at the time the co-pending application was filed and the inventive entities in the two applications are different. Thus, the present claims should not be rejected based on obviousness-type double patenting. It may be that the cited claims in the co-pending application encompass or cover the cited claims in the present application. However, that fact by itself is insufficient to support a double patenting rejection. The issues of claim dominance and double patenting must not be confused. MPEP 804 II at 800-20. Accordingly, this rejection should be withdrawn.

2. Application Number 09/929,238 in View of Yoneda or Friemann and Ramsden.

The Examiner provisionally rejected claims 1, 9, 10 and 14-19 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-18 of co-pending Application No. 09/929,238 in view of Yoneda or Friemann and Ramsden. These rejections are traversed. Applicant points out that co-pending claims 1-8 and 10-18 have been cancelled without prejudice, so the rejection based on those claims is moot. There remains co-pending claim number 9.

Co-pending claim 9 addresses a miter saw with a support structure, a swing arm above and pivotally attached to the support structure, a rotatable blade supported by the swing arm, a handle associated with the swing arm and adapted so that a user may pivot the swing arm and blade into the cutting zone, a motor adapted to drive the blade, a detection system adapted to detect contact between the blade and a person, and a brake mechanism adapted to stop rotation of the blade upon detection by the detection system of contact between the blade and the person. That miter saw is very different from the up-cut saws described in the cited claims of the present application, and the miter saw does not include many of the limitations found in the cited claims of the present claims, such as a reaction system configured to retract the blade. These numerous differences show that this double patenting rejection should be withdrawn.

3. Application Number 10/052,273 in View of Yoneda or Friemann and Ramsden.

The Examiner provisionally rejected claims 1, 9, 10 and 14-19 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 5-24 of co-pending Application No. 10/052,273 in view of Yoneda or Friemann and Ramsden. These rejections are traversed.

The cited co-pending claims address later-invented miter saws with specific reaction systems and other limitations pertinent to miter saws. The cited claims in the present are very different and include limitations pertinent to up-cut saws. These differences show that the claims are directed toward different subject matter and there would be no unjustified extension of any patent term if both applications issued as patents. Moreover, applicant could not have filed the claims together in one application because the invention claimed in the co-pending application was subsequent to the

invention claimed in the present application and the inventive entities in the two applications are different. Thus, the present claims should not be rejected based on obviousness-type double patenting.

4. Application Number 10/643,296 in View of Yoneda or Friemann and Ramsden.

The Examiner provisionally rejected claims 1, 9, 10 and 14-19 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of co-pending Application No. 10/643,296 in view of Yoneda or Friemann and Ramsden. These rejections are traversed.

The cited co-pending claims address later-invented miter saws with limitations different from the up-cut saws claimed in the present application. The differences between the claims show that they are directed to different subject matter and there would be no unjustified extension of any patent term if both applications issued as patents. Additionally, applicant could not have filed the cited co-pending and present claims together in one application because the inventions claimed in those applications were developed at different times and because the inventive entities in the two applications are different. Thus, this obviousness type double patenting rejection should be withdrawn.

5. Application Number 10/051,782 in View of Yoneda or Friemann and Ramsden.

The Examiner provisionally rejected claims 1, 9, 10 and 14-19 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 5, 7 and 20 of co-pending Application No. 10/051,782 in view of Yoneda or Friemann and Ramsden. These rejections are traversed.

As with several of the other double patenting rejections, the cited co-pending claims address later-invented miter saws with limitations different from the up-cut saws claimed in the present application. The differences between the claims show that they are directed to different subject matter and there would be no unjustified extension of any patent term if both applications issued as patents. Additionally, applicant could not have filed the cited co-pending and present claims together in one application because the inventions claimed in those applications were developed at different times and because the inventive entities in the two applications are different. Thus, this obviousness type double patenting rejection should be withdrawn.

6. Application Number 09/676,190 in View of Yoneda or Friemann and Ramsden.

The Examiner provisionally rejected claims 1, 9, 10 and 14-19 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of co-pending Application No. 09/676,190 in view of Yoneda or Friemann and Ramsden. These rejections are traversed. Nevertheless, co-pending claims 1-10 have been cancelled without prejudice, so this rejection is now moot.

Allowable Subject Matter

The Examiner indicated that claims 11 and 12 would be allowable if rewritten in independent form, and applicant has done so, so these claims should now be allowed.

CONCLUSION

Applicant's currently pending claims should be allowable for the reasons expressed herein. The Examiner is invited to call the undersigned if there are any questions.

Respectfully submitted,

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Date: October 28, 2004


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